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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,409	07/18/2003	Takaaki Tsuboi	TSUBOI7	2781

1444 7590 04/06/2005

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EXAMINER	
JONES, JUDSON	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,409	TSUBOI ET AL.	
	Examiner	Art Unit	
	Judson H. Jones	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1 and 4-12* is/are allowed.

6)☒ Claim(s) *2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright 5,208,501 (of record) in view of Kober 2,719,931, Takei 5,530,303 and Takei 5,684,344. Wright discloses a position control stage comprising a bed 55, a turntable 11, rolling contact bearings, a linear motor with armature windings as described in column 3 lines 35-41 and an encoder as described in column 2 lines 16-18. In figures 5 and 6 Wright discloses rectangular magnets 56 underneath the turntable but does not disclose the type of windings used and also provides no details on magnets 56. Rectangular bar magnets are commercially available. There is no suggestion in Wright that the magnets might have a slight taper to them, which would require the magnets to be specially constructed for the Wright device at a significantly increased price. Kober teaches in column 4 lines 9-11 that magnets can be triangular or square, in column 4 lines 3-4 teaches that magnets may be round and in column 4 lines 6-9 teaches making the magnet in a tapered shape. The round magnets are the cheapest to install because holes can be drilled for the magnets to be inserted. Also round magnets as shown in figure 9 and square magnets as shown in figure 13 are commercially available while the tapered magnets shown in figure 12 would have to been custom made. Spending more money on the magnets can make the device more powerful and/or more efficient, but the added cost is not always justified. Since Kober and Wright are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized square or rectangular bar stock magnets in order to

reduce the cost of the device. Using such stock bar magnets would inherently result in the spacing of any two adjacent magnets increasing in the circular direction. In regard to the coils, Takei '344 teaches flat coils opposing flat magnets for a curved path in figures 2 and 7. These coils are described as being "wound roughly into the shape of a rectangular loop." They are not described as being slightly tapered. To be absolutely sure of what Takei '344 means by roughly rectangular, Takei '303 is for a similar linear motor with a straight path. In the '303 device the coils are described as being "wound into roughly the shape of a rectangular loop." After inventing the '303 and describing the best mode for constructing the device, Takei then invented the '344 device. In describing the best mode for making the '344 device, Takei does not say coil spacer assemblies (element 36 in the '344 reference and element 46 in the '303 reference) have to be modified to give them a slight taper. It would have been obvious for one of ordinary skill in the art to conclude that when Takei '344 describes the coils as being wound roughly into the shape of a rectangular loop, the meaning here is that the coils have rounded corners and thus are not perfect rectangles. Since Takei and Wright as modified by Kober are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized flat coils to oppose the flat magnets of Wright in order to take maximize the power output and efficiency of the motor. It further would have been obvious to utilize roughly rectangular coils (i.e., rectangular coils with rounded corners). Using such coils would inherently have produced a device where the spacing between any two adjacent armature windings would increase in the circular direction.

Allowable Subject Matter

Claims 1 and 4-12 are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Judson Jones 4/1/2005

DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800